INITIAL COMMENTS TO THE TRANSITIONAL RATE DESIGN WORKING GROUP

SUBMITTED BY THE DIVISION OF THE RATEPAYER ADVOCATE

APRIL 6, 2006

The Board determined that a Working Group should be created to consider long-term rate design philosophy and the requirements of EPAct. The Working Group is required to provide the Board with a preliminary report by May 1, 2006, containing an outline of issues and a schedule for completing its investigation. In order to meet the May 1, 2006 deadline in an efficient manner, Staff has requested that parties circulate their thoughts on a set of issues. The Division of the Ratepayer Advocate ("Ratepayer Advocate") is filing these comments pursuant to that request. The comments address the issues raised by the Staff. However, rather than addressing each of the many sub-issues by Staff individually, the Ratepayer Advocate has chosen to focus on the three broad areas identified by the Staff in its questions—compliance with EPAct; Rate Design; and Smart Metering and Demand Response—identifying key points in each area which should be considered by the Working Group.

The Ratepayer Advocate's comments are based on basic ratemaking principles, particularly Bonbright's *Criteria of a Sound Rate Structure*, the discussion of time-based rates and smart metering in the *Reference Manual and Procedures for Implementation of the "PURPA Standards" in the Energy Policy Act of 2005* (The EPAct Manual), prepared for and distributed by NARUC, and on New Jersey-specific information relevant to the issues raised by the Working Group. For convenience, a copy of Bonbright's Criteria is attached. The EPAct Manual is available for free download from the NARUC website. James C. Bonbright's *Principles of Public Utility Rates*, published by Columbia University Press in 1961, is available free of charge at http://www.terry.uga.edu/bonbright/publications/bonbright.html.

1. EPAct

a. What are the states required to do concerning rate design and metering as a result of EPAct?

b. Has BPU satisfied any of these requirements?

c. If not, how should the BPU go about meeting these EPAct requirements?

Response*:* EPAct requires the consideration of time-based rates and related metering and communications. The term "time-based rates" refers to any pricing structure that allows prices to vary based on the time of consumption. EPAct lists three types of time-based rates:

- Time-of-use rates (TOU) in which a fixed price is usually set for two or three time blocks. Prices are highest during the highest period of demand and lowest in the lowest period of demand.

- Critical peak pricing (CPP), similar to TOU in most of the hours every year, but with substantially higher prices during a small number of extreme peak hours.

- Real-time pricing (RTP) in which charges vary in real time (i.e., hourly).

Relative to time-based rates, the key requirement in EPAct is the following:

> (A) Not later than 18 months after the date of enactment of this paragraph, each electric utility shall offer each of its customer classes, and provide individual customers upon customer request, a time-based rate schedule under which the rate charged by the electric utility varies during different time periods and **reflects the variance, if any, in the utility's costs of generating and purchasing electricity at the wholesale level.** (emphasis added)

In New Jersey the variance in the cost of purchasing electricity is determined by the structure of the BGS auction. For BGS-FP service there is limited variance, while for BGS-CIEP the variance is hourly. The rates to retail customers for BGS service are what EPAct refers to as "time-based." The TOU rates used for BGS-FP service and the RTP rates used for BGS-CIEP are appropriate to the variation in the cost of purchasing electricity for these services. The meters provided to those on each of the services are adequate for them to manage their individual energy costs, given the structure of the rates they face. Taking all of this into account, it is the Ratepayer Advocate's position that current rate design and metering meet the key EPAct requirements.

The fact that New Jersey meets the key EPAct requirements related to time-based rates and metering does not mean that the Board should not, over time, pay continuing attention to rate design and metering. It does mean that this "attention" can and should continue to reflect the needs and interests of New Jersey's ratepayers, not a set of federal requirements which the state already meets.

2.1 Rate Design

a. What should be the objectives of the Board's rate design policies?

b. Should they be different for different rate classes?

c. Is the current rate design sufficient to meet these goals for residential customers, for C&I customers? If not, where are refinements needed?

d. Should some rate structures be offered on a voluntary rather than a mandatory basis? If so, which ones?

e. When the Board speaks of "long term rate design philosophy" what time frame should it be considering and what is the level of commitment required?

Response: Bonbright's criteria provide the appropriate general framework for ratemaking. As Bonbright himself made clear, key objectives are revenue sufficiency, equity, and efficiency (Criteria 3, 6, and 8). In addition, regulators have generally recognized the particular importance of rate stability (Criterion 5) and the "practical attributes"—simplicity, understandability, public acceptance, and feasibility of application (Criterion 1). The Ratepayer Advocate recommends that the Board accept Bonbright's criteria and pursue all the objectives these criteria identify. The focus on time-based rates in EPAct highlights efficiency (Criterion 8). Efficiency is only one of the attributes of a Sound Rate Structure.

The EPAct Manual recommends that states determine what goals they hope to achieve through the use of time-based rates. Once the goals have been defined, the manual recommends that states look to see what other options are available to achieve them. We will return to this point in 2 b) below. The EPAct Manual also indicates how the identified goals should be pursued:

> The questions that states and utilities should ask, which follow, should be asked of each of the time-based rates separately. *This is a very important point*. Different time-based rates may be appropriate for different utilities and different consumer sectors within a utility. The fact that a decision was reached to reject RTP as an appropriate tool does not mean that TOU will also be inappropriate. Each method must be evaluated separately. Additionally, the questions must be asked separately for each market sector. For example, TOU must be considered separately for residential customers and industrial consumers. Each pricing structure should be considered as an alternative means of achieving a desired goal within a sector. (Emphasis in the original.)

There is a tendency to assume that consideration of time-based rates should give precedence to RTP or at least CCP rates. The EPAct Manual addresses this tendency as follows:

> …a state or utility may find that a different rate structure is appropriate for different sectors. There is no limitation that prohibits such practices in the statute. Current practices support differentiation of sectors by the different types of rates paid. For example, industrial customers may pay TOU while residential customers may retain average cost pricing.

As the preceding excerpts from the manual make clear, the current New Jersey Practice—having different time-based rates for different groups of customers—is both acceptable under EPAct and consistent with current practice. Indeed, the manual emphasizes the need to do exactly what the Board has done in the past: carefully match the choice of time-based rates to the customer

groups. The Ratepayer Advocate recommends that this approach continue to guide the Board's consideration of time-based rates in the future.

It is the Ratepayer Advocate's position that adherence to Bonbright's criteria and careful consideration of the full range of time-based rates on a customer class specific basis provides an appropriate long-term (i.e., permanent) rate design philosophy for the Board.

Voluntary time-based sales are a reality in New Jersey today. The Board has approved the offer of BGS-CIEP service on a voluntary basis. It is the Ratepayer Advocate's position that there needs to be a good deal of study before voluntary rates are "rolled out" for small customers in general and residential customers in particular. This position is based on recent experience. Currently the PSE&G EICN Pilot Program ("myPower") is exploring additional options for time-based rates. The Ratepayer Advocate notes that PSE&G recently learned that the hourly pricing option (DAP) included in myPower had to be modified. Without the myPower pilot the need for this modification would have remained unseen. The importance of this new insight is made clear in PSE&G's letter of February 21, 2006 to the Board. There, PSE&G admits there was an oversight in the original DAP pricing proposal that was not foreseen at the time the original pricing was proposed, and goes on to state that such an adjustment, to provide a link to BGS-FP prices, will be critical not only for the pilot, but for any future full-scale offering. Pilots are needed so that these "unforeseen" points can come to light and be addressed before rates available to large groups of customers are rolled out. Why such rates should be voluntary is addressed in 2.2 below.

2.2 Smart Metering and Demand Response

f. What is meant by smart metering? What do you see as the benefits and drawbacks to customers of smart metering?

g. Should smart metering be made mandatory (or voluntary) for certain customer classes (sizes)? If so, which ones?

h. Should smart thermostats also be a part of this program?

i. Should smart thermostat programming be performed by the Company or by the customer with customer overriding capability?

j. Who should pay the cost of new meters and meter installations?

k. Would the results of such metering be used for rate design and billing purposes or just for informational purposes?

l. Would the output of such metering be conveyed to the customer? If so, how? How would the customer be expected to make use of the information?

m. How should rate design and metering policies be incorporated into a Board demand response policy?

Response: *The PUR Glossary for Utility Management*, compiled by the editors of Public Utility Reports, defines a smart meter as "a device that enables customers to know what the price of a utility product or service is at a certain time of day." The EPAct Manual expands on this definition, commenting as follows:

> Smart meters can register the time during which consumption or supply took place, and thus can facilitate time-based rates. Smart meters can be utilized in a variety of different ways that can improve communication and demand responses through active monitoring and data collection.

The Ratepayer Advocate suggests that the "smart metering" be considered as a package which may and often will include a meter, communication and/or meter-reading equipment, and related devices such as programmable thermostats. In what follows "smart metering" will refer to this package.

When considering smart metering the Ratepayer Advocate recommends that the Working Group and the Board give careful consideration to the following basic points:

- Smart metering can create cost-cutting options for customers. However, it can also have adverse impacts—creating additional cost and inconvenience. In implementing smart metering the goal should be to enhance the potential for savings, while minimizing cost and inconvenience. How this is best accomplished will likely vary by customer class.

- Smart metering can facilitate more sophisticated rate design (i.e., CCP and RTP rates) as well as direct load control, such as that provided by A/C cycling There is no general reason to prefer one of these approaches to another. The choice should be made for each customer group, based on reasonably achievable savings, compared to cost and inconvenience.

The Ratepayer Advocate is particularly concerned that the potential adverse impacts of the more sophisticated rate designs (i.e., CCP and RTP rates) on residential customers be fully taken into account when implementing smart metering. The EPAct Manual explains this concern quite well:

> In order for time-based rates to be successful, consumers will need to monitor and change their behavior in response to the prices that are given. The increased monitoring by consumers will almost certainly create inconvenience costs. The inconvenience could be a matter of the consumer not being able to do what they want when they want (turning on the air conditioner during the middle of the day on a day off from work) or being forced to do what they want when they don't want to do it (i.e., running the dishwasher in the middle of the night as they try to sleep). If time-based rates provide

> consumers benefits in the form of cost savings, then they require this savings to exceed any cost they have incurred from inconvenience. **If consumers view the inconvenience to be too great, time-based rates may not be sustainable.** (emphasis added)

In view of these concerns, the Ratepayer Advocate tends to favor technology-enabled efforts, such as A/C Cycling, over the simple provision of CCP or RTP rates, and to support arrangements in which customers can override control to preserve the requirement level of amenity. This being said, the Ratepayer Advocate recognizes the need to consider a wide variety of ways to use such meters as, for example, is being done in the myPower project.

Based on the preceding general discussion, the Ratepayer Advocate offers the following specific comments:

- For small customers smart metering should be voluntary.

- Smart thermostats and other such equipment should be considered part of smart metering. The utilities should do as much as possible, including programming of thermostats, to facilitate use of smart metering. However, customers should have "override" capability.

- Costs should track benefits. In particular, if there are general benefits associated with smart benefits such as reductions in the market price for electricity, the costs should be spread accordingly.

- The metering results should be used initially to gain information and insight, likely via pilot projects. The best way to communicate metering results to customers should be studied as part of the pilots. It is too soon to decide how rate design and metering should fit in a general Demand Response policy.

CRITERIA OF A SOUND RATE STRUCTURE

1. The related, "practical" attributes of simplicity, understandability, public acceptability, and feasibility of application.

2. Freedom from controversies as to proper interpretation.

3. Effectiveness in yielding total revenue requirements under the fair-return standard.

4. Revenue stability from year to year.

5. Stability of the rates themselves, with minimum of unexpected changes seriously adverse to existing customers. (Compare "The best tax is an old tax.")

6. Fairness of the specific rates in the appointment of total costs of service among the different customers.

7. Avoidance of "undue discrimination" in rate relationships.

8. Efficiency of the rate classes and rate blocks in discouraging wasteful use of service while promoting all justified types and amounts of use:

   (a) in the control of the total amounts of service supplied by the company;

   (b) in the control of the relative uses of alternative types of service (on-peak versus off-peak electricity, Pullman travel versus coach travel, single-party telephone service versus service from a multi-party line, etc.).

Source: James Bonbright, *Principles of Public Utility Rates*, Columbia University Press, 1961, page 291.